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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/559,509

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David Anderson

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EXAMINER

ELBIN, JESSE A

ART UNIT

PAPER NUMBER

2614

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/559,509	Applicant(s) ANDERSON, DAVID	
	Examiner JESSE A. ELBIN	Art Unit 2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 August 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 August 2008 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings were received on 14 August 2008. These drawings are not acceptable, as Figure 4 was newly added, but labeled "Replacement Sheet". 37 CFR 1.121(d) states "Any new sheet of drawings containing an additional figure must be labeled in the top margin as 'New Sheet' ".
2. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The amendment filed 14 August 2008 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: Claims 11 and 12 state specific dimensions of "the elongate hole" that are not supported by the original

specification. As the specification does not explicitly describe the drawings as being to scale, they cannot be relied upon for support of dimensions. The specification, as originally filed, does not support "the length of the elongate hole [being] at least two times greater than the width of the elongate hole" of claim 11, nor "the length of the elongate hold [being] greater than a radius defined by the cylindrical shielding surface" of claim 12.

4. Further, Figure 4, newly added in the amendment of 14 august 2008, introduces new matter. The specification as originally filed does not indicate a specific number of layers present in the "wind noise reduction element." Additionally, after further consideration, Figure 3 is sufficient to show the subject matter of claim 3 ("said wind noise reduction element comprises a mesh having a plurality of layers"). Therefore the objection to the drawings relating to claim 3 is hereby withdrawn.

Applicant is required to cancel the new matter in the reply to this Office Action.

Response to Amendment

5. The amendment of 14 August 2008 has been partially entered with the following effects:

- a. The amendments to the specification have not been entered as they would introduce new matter into the disclosure.
- b. Newly added Figure 4 has not been entered as it would introduce new matter into the disclosure.
- c. Claims 1, 4, 5, and 7 have been amended.

- d. Claims 2 and 3 remain as previously presented.
- e. Claim 6 is cancelled.
- f. Claims 8-20 are newly added.

Claim Objections

6. Claim 2 is objected to because "Microphone" appears to be misspelled. Claim 2 currently states "Mirophone unit..." Appropriate correction is required.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 11 and 12 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification, as originally filed, does not support "the length of the elongate hole [being] at least two times greater than the width of the elongate hole" of claim 11, nor "the length of the elongate hold [being] greater than a radius defined by the cylindrical shielding surface" of claim 12..

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1, 7-10, 13, 15, and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Woodard (US Patent 4,862,507 ('507)) (already of record).

Regarding claim 1, Woodard teaches a microphone unit ('507 title) for mobile equipment, comprising: a microphone pick up (microphone head; '507 Fig. 4 #14) located within a microphone pick up housing (front and rear supports; Fig. 4 #17 and #18) forming a chamber (central cavity; '507 Fig. 4 #25), wherein said microphone pick up housing defines a cylinder (Fig. 4) extending in a longitudinal direction along an axis of the cylinder (principal axis; Fig. 4 #15) wherein the microphone pick up housing has a shielding surface (*defined by* Fig. 5 ##30, 32, 34, 36, 38, and 40) and a side surface (*defined by* Fig. 6 #42) wherein the side surface is perpendicular with respect to the longitudinal direction (Fig. 5-6), wherein said microphone pick up housing is provided with three sound passage openings ('507 Figs. 5-6 *illustrate a total of 7 openings, 6 on the "shielding surface", 1 on the "side surface"*) configured to receive sound from a sound field external to said chamber, said sound passage openings being provided with at least one wind noise reduction element each (foam cover; Figs. 1, 4 #12 *is illustrated completely encompassing front support 17*) wherein at least one of said sound passage

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openings comprises a hole in said shielding surface ('507 Figs. 5-6 *illustrate 6 openings on the "shielding surface"*), wherein the hole has a length extending in the longitudinal direction (principal axis) that is greater than a width of the hole in a direction orthogonal with respect to the longitudinal direction ('507 Fig. 5 *illustrates openings between the ribs which extend in the direction defined by the principal axis 15, wherein the longitudinal direction is illustrated as being longer than the direction orthogonal to the longitudinal direction*).

Regarding claim 7, Woodard remains as applied above.

Woodard further teaches at least one of said sound passage openings comprises a hole in said side surface ('507 Fig. 6 *illustrates a hole in the "side surface" defined by ring 42*).

Regarding claim 8, Woodard remains as applied above.

Woodard further teaches the three sound passage openings are provided in the shielding surface of the microphone pick up housing ('507 Figs. 5-6 *illustrate 6 openings on the "shielding surface"*).

Regarding claim 9, Woodard remains as applied above.

Woodard further teaches a fourth sound passage opening is provided in the side surface of the microphone pick up housing ('507 Figs. 5-6 *illustrate an additional opening on the "side surface"*).

Regarding claim 10, Woodard teaches a microphone ('507 title) for a mobile electronic device, the microphone comprising: a microphone pick up housing (front and rear supports; Fig. 4 #17 and #18) having a cylindrical shielding surface (*defined by Fig. 5 ##30, 32, 34, 36, 38, and 40*) defining cylindrical chamber (*including central cavity; '507 Fig. 4 #25*) wherein the cylindrical shielding surface has an elongated hole therethrough ('507 Figs. 5-6 *illustrate a total of 6 "elongated holes" between ribs ##30, 32, 34, 36, 38, 40*), wherein a length of the elongate hole in a longitudinal direction of the cylindrical chamber is greater than a width of the elongate hole in a direction orthogonal with respect to the longitudinal direction ('507 Fig. 5 *illustrates openings between the ribs which extend in the direction defined by the principal axis 15, wherein the longitudinal direction is illustrated as being longer than the direction orthogonal to the longitudinal direction*); a microphone pick up (microphone head; '507 Fig. 4 #14) located in the cylindrical chamber defined by the microphone pick up housing ('507 Fig. 4 *illustrates microphone head 14 within the cylindrical housing defined by front and rear supports #17 and #18 respectively*); and a noise reduction element covering the elongated hole (foam cover; Figs. 1, 4 #12 *is illustrated completely encompassing front support 17 and all "elongated holes"*).

Regarding claim 13, Woodard remains as applied above.

Woodard further teaches the microphone pick up housing (front and rear supports; Fig. 4 #17 and #18) has an end surface (*defined by* Fig. 6 #42) that is perpendicular ('507 Fig. 5) with respect to the longitudinal direction (principal axis; Fig. 4 #15) and wherein the end surface has an end sound passage opening therethrough ('507 Figs. 5-6 *illustrate an opening on the "end surface" defined by ring #42*).

Regarding claim 15, Woodard remains as applied above.

Woodard further teaches the cylindrical shielding surface having at least three elongated holes therethrough aligned in the longitudinal direction ('507 Figs. 5-6 *illustrate a total of 6 "elongated holes" aligned with the principal axis*).

Regarding claim 16, Woodard remains as applied above.

Woodard further teaches the noise reduction element comprising a noise reduction element on each of the at least three elongated holes (foam cover; Figs. 1, 4 #12 *is illustrated completely encompassing front support 17 and all "elongated holes"*).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 2, 4, 17, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Woodard (US Patent 4,862,507 ('507)) (already of record) as applied to claims 1 and 10 above, and further in view of Patel et al. (US Patent 5,442,713 ('713)) (already of record).

Regarding claim 2, Woodard remains as applied above.

Woodard does not explicitly teach said wind noise reduction element comprising a mesh having one layer.

In the same field of endeavor, Patel a wind noise reduction element (porous member; '713 Fig. 2 #20) comprising a mesh having one layer (is a stainless steel mesh; '713 col. 2 lines 23-24) for the benefit of being able to adjust the pitch of the mesh to adjust the element's ability to reduce wind noise.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a mesh as taught by Patel as the wind noise reduction element, as taught by Woodard, for the benefit of being able to adjust the pitch of the mesh to adjust the element's ability to reduce wind noise.

Regarding claim 4, the combination of Woodard and Patel remains as applied above.

See rejection of claim 2 above, where Patel teaches the mesh being stainless steel ('713 col. 2 lines 23-24).

Regarding claim 17, Woodard remains as applied above.

Woodard does not explicitly teach the noise reduction element comprising a mesh.

In the same field of endeavor, Patel a wind noise reduction element (porous member; '713 Fig. 2 #20) comprising a mesh (is a stainless steel mesh; '713 col. 2 lines 23-24) for the benefit of being able to adjust the pitch of the mesh to adjust the element's ability to reduce wind noise.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a mesh as taught by Patel as the wind noise reduction element, as taught by Woodard, for the benefit of being able to adjust the pitch of the mesh to adjust the element's ability to reduce wind noise.

Regarding claim 18, the combination of Woodard and Patel remains as applied above.

See rejection of claim 17 above, where Patel teaches the mesh is a metal mesh (stainless steel mesh; '713 col. 2 lines 23-24).

13. Claims 3 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Woodard (US Patent 4,862,507 ('507)) (already of record) as applied to claim 1, in view of Drever (US Patent 4,600,077 ('077)).

Regarding claim 3, Woodard remains as applied above.

Woodard does not explicitly teach said wind noise reduction element comprising a mesh having a plurality of layers.

In the same field of endeavor, Drever teaches wind noise reduction element (a laminate structure acting as a wind interfering medium; '077 col. 3 lines 34-35) comprising a mesh (layers of nylon; '077 col. 3 lines 24-25) having a plurality of layers (in a multilayer laminate; '077 col. 3 lines 22-23) for the benefit of further limiting the effects of wind on the microphone.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the porous membrane as taught by Woodard to use a multilayer laminate material as taught by Drever for the benefit of further limiting the effects of wind on the microphone.

Regarding claim 20, Woodard remains as applied above.

Woodard does not explicitly teach the wind noise reduction element comprising a mesh having a plurality of layers.

In the same field of endeavor, Drever teaches wind noise reduction element (a laminate structure acting as a wind interfering medium; '077 col. 3 lines 34-35) comprising a mesh (layers of nylon; '077 col. 3 lines 24-25) having a plurality of layers (in a multilayer laminate; '077 col. 3 lines 22-23) for the benefit of further limiting the effects of wind on the microphone.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the porous membrane as taught by Woodard to use a multilayer

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laminate material as taught by Drever for the benefit of further limiting the effects of wind on the microphone.

14. Claims 5 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Woodard (US Patent 4,862,507 ('507)) (already of record) in view of Patel et al. (US Patent 5,442,713 ('713)) (already of record) as applied to claims 2 and 17, in view of Drever (US Patent 4,600,077 ('077)).

Regarding claim 5, the combination of Woodard and Patel remains as applied above.

Neither Woodard nor Patel explicitly teaches the mesh being made of polymer material such as nylon.

In the same field of endeavor, Drever teaches a mesh being made of polymer material such as nylon (layers of nylon; '077 col. 3 lines 24-25) for the benefit of being able to adjust the pitch of the mesh to adjust the element's ability to reduce wind noise.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a nylon mesh as taught by Drever in the wind noise reduction element, as taught by the combination of Woodard and Patel, for the benefit of being able to adjust the pitch of the mesh to adjust the element's ability to reduce wind noise.

Regarding claim 19, the combination of Woodard and Patel remains as applied above.

Neither Woodard nor Patel explicitly teaches the mesh comprising a nylon mesh.

In the same field of endeavor, Drever teaches a mesh comprising a nylon mesh (layers of nylon; '077 col. 3 lines 24-25) for the benefit of being able to adjust the pitch of the mesh to adjust the element's ability to reduce wind noise.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a nylon mesh as taught by Drever in the wind noise reduction element, as taught by the combination of Woodard and Patel, for the benefit of being able to adjust the pitch of the mesh to adjust the element's ability to reduce wind noise.

15. Claims 11, 12, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Woodard (US Patent 4,862,507 ('507)) (already of record) as applied to claims 10 and 13 above.

Regarding claim 11, Woodard remains as applied above.

Woodard does not explicitly teach the length of the elongate hole is at least two times greater than the width of the elongate hole.

Woodard does illustrate the length of the elongate holes (Fig. 5) being at least two times greater than the width of the elongate holes. Further Woodard teaches sizing the openings of the supports to tune the delays of the sound reaching the microphone, thereby altering the directionality of the microphone ('507 col. 1 lines 8-35).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the size of the elongate holes to customize a delay factor, thereby

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altering the directionality of the microphone unit according to the requirements of the design.

Regarding claim 12, Woodard remains as applied above.

Woodard does not explicitly teach the length of the elongate hole is greater than a radius defined by the cylindrical shielding surface.

Woodard does illustrate the length of the elongate holes (Fig. 5) being greater than a radius defined by the cylindrical shielding surface. Further Woodard teaches sizing the openings of the supports to tune the delays of the sound reaching the microphone, thereby altering the directionality of the microphone ('507 col. 1 lines 8-35).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the size of the elongate holes to customize a delay factor, thereby altering the directionality of the microphone unit according to the requirements of the design.

Regarding claim 14, Woodard remains as applied above.

Woodard does not explicitly teach a second noise reduction element covering the end sound passage opening therethrough,

Woodard does teach the foam cover (Figs. 1, 4 #12) completely encompassing front support 17 and all openings. Specifically, Fig. 4 illustrates the opening in the "end surface" being covered by the foam cover #12. One of ordinary skill in the art would recognize that a single foam cover encompassing all holes; or a separate foam cover

for each opening would not alter the functionality of the design, and is a structural equivalent.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the foam cover taught by Woodard to be two separate pieces based on the requirements of the design, without altering the functionality of the device.

Response to Arguments

16. Applicant's arguments with respect to claims 1-5 and 7 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

18. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JESSE A. ELBIN whose telephone number is (571)270-3710. The examiner can normally be reached on Monday through Friday, 9:00am to 6:00pm EDT.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on (571) 272-7499. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. A. E./

Examiner, Art Unit 2614

/CURTIS KUNTZ/

Supervisory Patent Examiner, Art Unit 2614